WHAT IS CLAIMED IS:

1. A gas-feeding apparatus configured to be connected to an evacuatable reaction chamber provided with a support for placing a substrate thereon, comprising:

a gas-distribution head for introducing gases into the chamber through a head surface, comprising a first section for discharging a gas through the head surface toward the support and a second section for discharging a gas through the head surface toward the support, said first and said second sections being isolated from each other in the gas-distribution head, at least one of which section is coupled to an exhaust system for purging therefrom a gas present in the corresponding section without passing through the head surface.

2. The gas-feeding apparatus according to Claim 1, wherein the first section and the second section are each disposed parallel to the head surface, said second section being closer to the head surface than is the first section, wherein at least the first section is coupled to the exhaust system.

3. The gas-feeding apparatus according to Claim 1, wherein the first section and the second section are each disposed parallel to the head surface, said second section being closer to the head surface than is the first section, wherein the second section is coupled to the exhaust system.

4. The gas-feeding apparatus according to Claim 1, wherein the first section and the second section are both coupled to the respective exhaust systems.

5. The gas-feeding apparatus according to Claim 2, wherein the first section has an volume which is larger than that of the second section.

6. The gas-feeding apparatus according to Claim 2, wherein the first section reaches the head surface through the second section without being communicated with each other.

7. The gas-feeding apparatus according to Claim 6, wherein the first section and the second section are communicated with the head surface through a plurality of bores.

8. The gas-feeding apparatus according to Claim 2, wherein the first section comprises a central distribution inlet and a cone-shaped distribution plate extending radially therefrom.

9. The gas-feeding apparatus according to Claim 4, wherein the first section and the second section are each disposed parallel to the head surface and each separately communicated with the head surface through bores, said second section being closer to the head surface than is the first section.

10. The gas-feeding apparatus according to Claim 9, wherein the bores communicating the second section and the head surface are disposed predominantly in a central area of the head surface, whereas the bores communicating the first section and the head surface are uniformly distributed on the head surface.

11. The gas-feeding apparatus according to Claim 10, wherein the second section has a longitudinal shape in the gas-distribution head.

12. The gas-feeding apparatus according to Claim 9, wherein the bores communicating the first section and the head surface have a total opening area on the head surface which is larger than that of the bores communicating the second section and the head surface.

13. The gas-feeding apparatus according to Claim 9, wherein the bores communicating the first section and the head surface have an average bore size which is larger than that of the bores communicating the second section and the head surface.

14. The gas-feeding apparatus according to Claim 2, further comprising an RF power source for exerting RF power exclusively onto an interior of the second section.

15. The gas-feeding apparatus according to Claim 14, wherein the RF power source is coupled to a bottom plate of the first section which physically separates and insulates the first section from the second section, and the head surface is grounded.

16. The gas-feeding apparatus according to Claim 1, further comprising an RF power source coupled to the gas-distribution head to exert PR power onto an interior of the reaction chamber.

17. The gas-feeding apparatus according to Claim 2, wherein the first section is coupled to a source gas line and a purge gas line, and the second section is coupled to an additive gas line and a purge gas line.

18. A thin-film deposition apparatus comprising:

an evacuatable reaction chamber provided with a support for placing a substrate thereon; and

the gas-feeding apparatus of Claim 1.

19. The thin-film deposition apparatus according to Claim 18, wherein a space between the head surface and the support is coupled to an exhaust system.

20. The thin-film deposition apparatus according to Claim 19, wherein the exhaust system for evacuating the gas-distribution head and the exhaust system for evacuating the space between the head surface and the support are connected and merged to a single exhaust line.

21. A method for forming a thin film on a substrate comprising:

(i) placing a substrate in an interior of a reaction chamber;

(ii) introducing a first gas into the interior of the reaction chamber via a first path of a showerhead through a showerhead surface, wherein the first gas is introduced from an upstream side of the showerhead surface, and the interior of the reaction chamber is on a downstream side of the showerhead surface;

(iii) purging the first path of the showerhead with a purge gas while evacuating the first path from the upstream side of the showerhead surface; and

(iv) introducing a second gas into the interior of the reaction chamber via a second path of the showerhead through the showerhead surface, wherein the first path and the second path are isolated from each other in the showerhead, thereby reacting the first gas and the second gas and depositing a film on the substrate.

22. The method according to Claim 21, further comprising (v) purging the second path of the showerhead with a purge gas while evacuating the second path from the upstream of the showerhead surface.

23. The method according to Claim 22, wherein steps (ii) though (v) constitutes one cycle and are repeated.

24. The method according to Claim 23, wherein a third gas in place of the first gas is used alternately with the first gas.

25. The method according to Claim 21, wherein in step (iv), the second gas is introduced from a central area of the showerhead.

26. The method according to Claim 21, wherein the interior of the reaction chamber is constantly evacuated from the downstream of the showerhead surface.

27. The method according to Claim 21, further comprising (vi) purging the interior of the reaction chamber with a purge gas while evacuating the interior of the reaction chamber from the downstream of the showerhead surface.

28. The method according to Claim 21, further comprising exerting RF power onto the second gas when flowing in the second path in the showerhead.

29. The method according to Claim 21, further comprising exerting RF power onto the interior of the reaction chamber.

30. A gas-feeding apparatus adapted to be connected to an evacuatable reaction chamber for atomic layer growth processing, comprising:

a distribution plate;

a first plate having first bores through which a first gas passes, wherein a first section is formed between the distribution plate and the first plate, wherein the first gas is introduced into the first section and passes through the first bores; and

a second plate having second bores through which a second gas passes, wherein a second section is formed between the first plate and the second plate, wherein the second gas is introduced into the second section and passes through the second bores, said second plate having third bores through which the first gas passes, wherein the second section is provided with connectors which connect the respective first bores and the respective third bores in the second section without being communicated with the second bores,

wherein at least one of the first section or the second section is coupled to an exhaust system which discharges the gas in the corresponding section without passing through the corresponding bores.

31. The gas-feeding apparatus according to Claim 30, wherein the first plate and the second plate are disposed parallel to each other, and the distribution plate has a cone shape.

32. The gas-feeding apparatus according to Claim 30, wherein the distribution plate is provided with a first gas inlet disposed in a central area of the distribution plate for introducing the first gas into the first section.

33. The gas-feeding apparatus according to Claim 30, wherein the second section is provided with a second gas inlet disposed in the vicinity of an outer periphery of the second section.

34. The gas-feeding apparatus according to Claim 30, wherein the first section is coupled to the exhaust system, wherein the first gas present in the first section is exhausted around an outer periphery of the distribution plate.

35. The gas-feeding apparatus according to Claim 30, wherein the second section is coupled to the exhaust system, wherein the second gas present in the second section is exhausted through a second gas outlet disposed in the vicinity of an outer periphery of the second section.

36. The gas-feeding apparatus according to Claim 30, wherein the second bores are disposed predominantly in a central area of the second plate.

37. The gas-feeding apparatus according to Claim 30, wherein the first bores are distributed uniformly on the first plate, and the third bores are disposed right under the respective first bores.

38. The gas-feeding apparatus according to Claim 30, wherein the third bores have a total opening area which is larger than that of the second bores.

39. The gas-feeding apparatus according to Claim 30, wherein the third bores have an average bore size which is larger than that of the second bores.

40. The gas-feeding apparatus according to Claim 36, wherein the second section is coupled to the exhaust system and is provided with a second gas inlet and a second gas outlet near an outer periphery of the second section, wherein the second section has a longitudinal shape from the inlet to the outlet via the central area having the second bores.